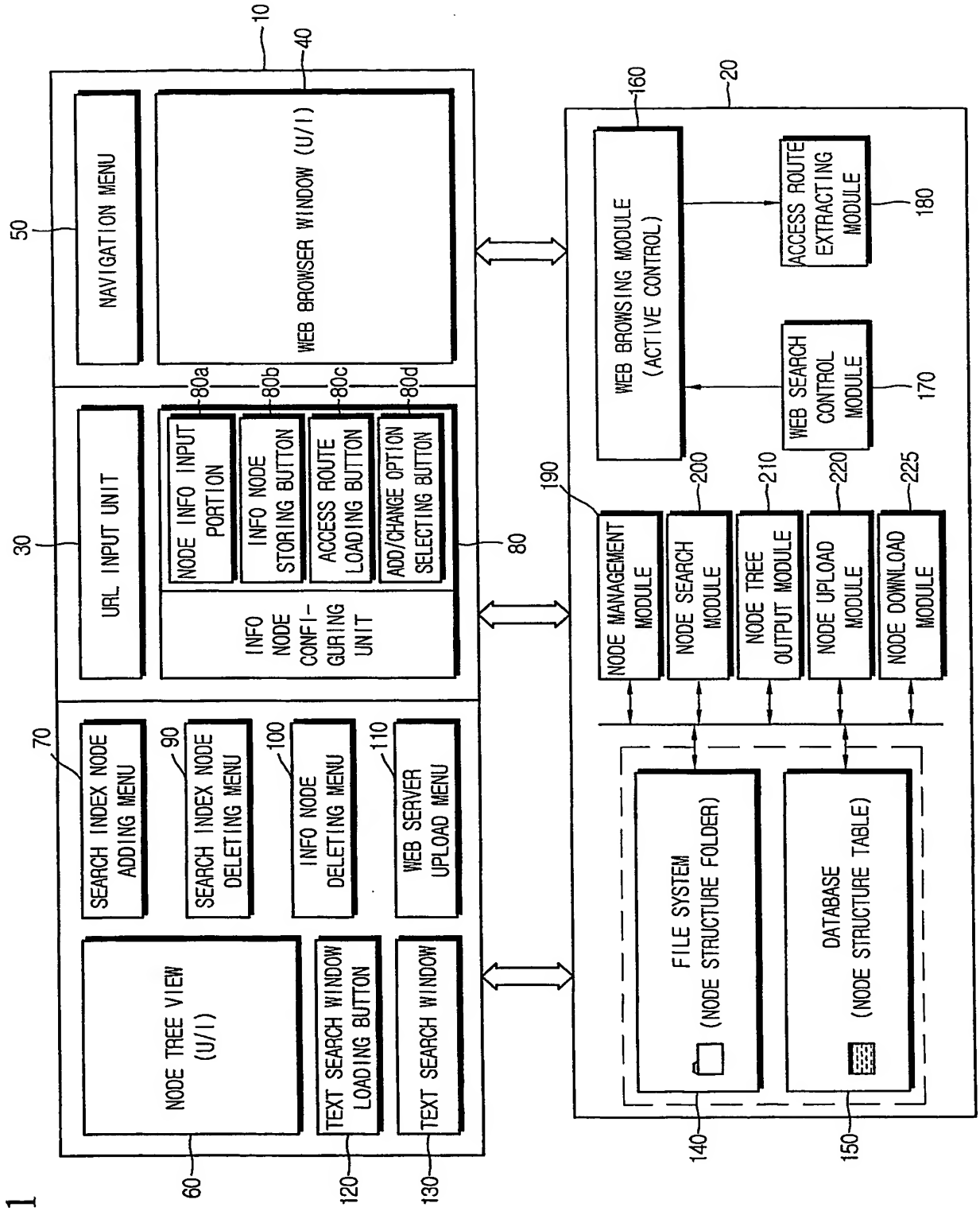

10
40
50
NAVIGATION MENU
WEB BROWSER WINDOW (U/I)
30
URL INPUT UNIT
80a
80b
80c
80d
NODE INFO INPUT PORTION
INFO NODE STORING BUTTON
ACCESS ROUTE LOADING BUTTON
ADD/CHANGE OPTION SELECTING BUTTON
INFO NODE CONFI-GURING UNIT
80
70
SEARCH INDEX NODE ADDING MENU
90
SEARCH INDEX NODE DELETING MENU
100
INFO NODE DELETING MENU
110
WEB SERVER UPLOAD MENU
NODE TREE VIEW (U/I)
TEXT SEARCH WINDOW LOADING BUTTON
TEXT SEARCH WINDOW
60
120
130
190
20
160
WEB BROWSING MODULE (ACTIVE CONTROL)
ACCESS ROUTE EXTRACTING MODULE
180
WEB SEARCH CONTROL MODULE
170
200
210
220
225
NODE MANAGEMENT MODULE
NODE SEARCH MODULE
NODE TREE OUTPUT MODULE
NODE UPLOAD MODULE
NODE DOWNLOAD MODULE
FILE SYSTEM (NODE STRUCTURE FOLDER)
DATABASE (NODE STRUCTURE TABLE)
140
150

FIG. 1

FIG. 2

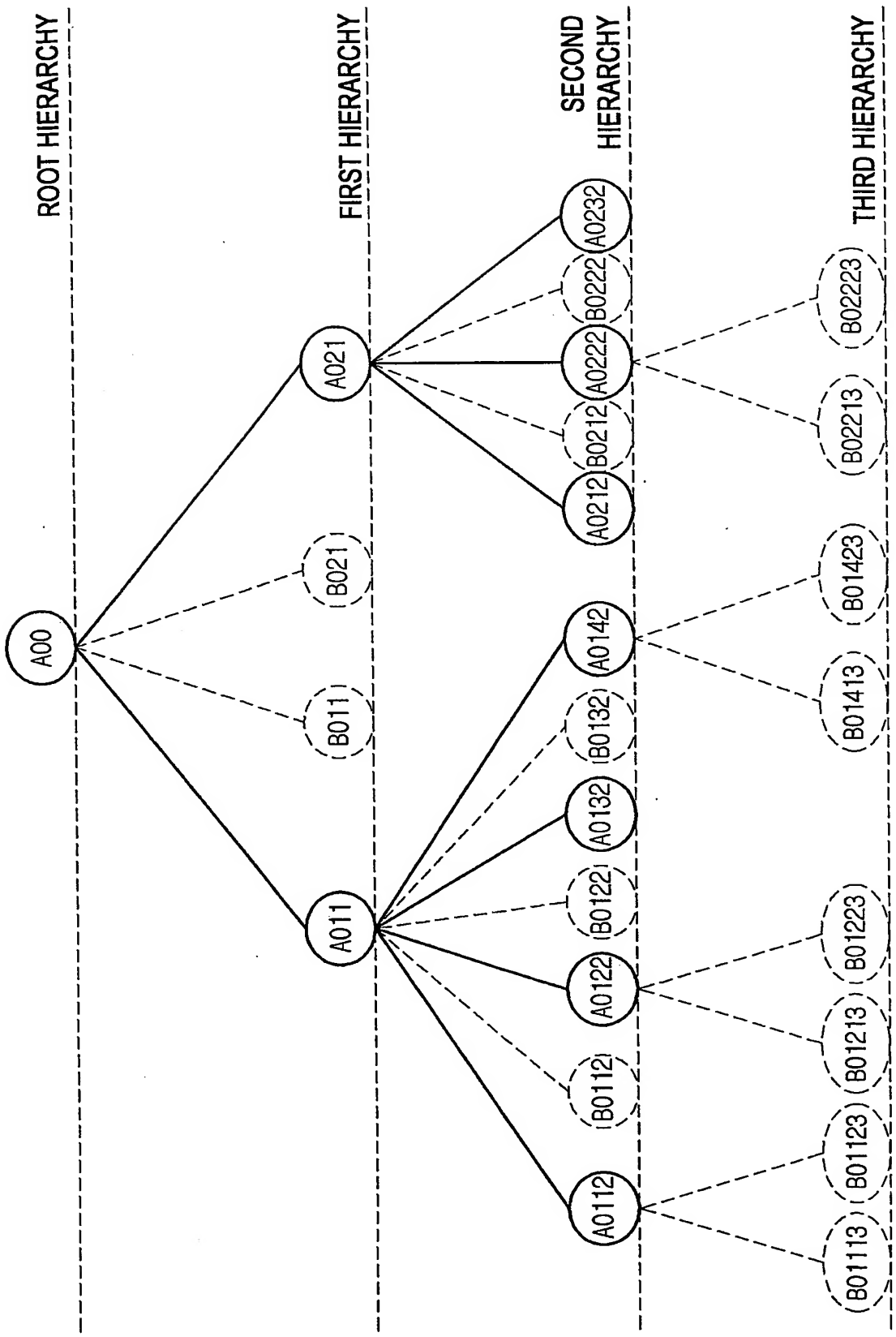

ROOT HIERARCHY
FIRST HIERARCHY
SECOND HIERARCHY
THIRD HIERARCHY
A00
A011
A021
B011
B021
A0112
A0122
A0132
A0142
A0212
A0222
A0232
B0112
B0122
B0132
B0212
B0222
B01113
B01123
B01213
B01223
B01413
B01423
B02213
B02223

FIG. 3

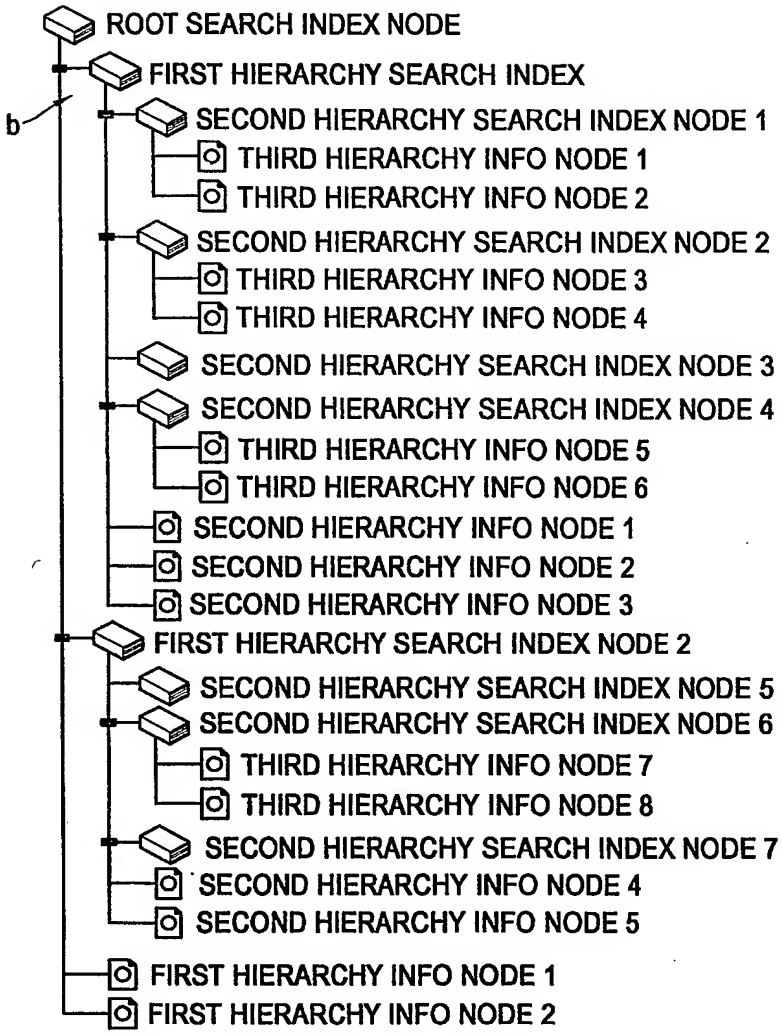

ROOT SEARCH INDEX NODE
FIRST HIERARCHY SEARCH INDEX
b
SECOND HIERARCHY SEARCH INDEX NODE 1
THIRD HIERARCHY INFO NODE 1
THIRD HIERARCHY INFO NODE 2
SECOND HIERARCHY SEARCH INDEX NODE 2
THIRD HIERARCHY INFO NODE 3
THIRD HIERARCHY INFO NODE 4
SECOND HIERARCHY SEARCH INDEX NODE 3
SECOND HIERARCHY SEARCH INDEX NODE 4
THIRD HIERARCHY INFO NODE 5
THIRD HIERARCHY INFO NODE 6
SECOND HIERARCHY INFO NODE 1
SECOND HIERARCHY INFO NODE 2
SECOND HIERARCHY INFO NODE 3
FIRST HIERARCHY SEARCH INDEX NODE 2
SECOND HIERARCHY SEARCH INDEX NODE 5
SECOND HIERARCHY SEARCH INDEX NODE 6
THIRD HIERARCHY INFO NODE 7
THIRD HIERARCHY INFO NODE 8
SECOND HIERARCHY SEARCH INDEX NODE 7
SECOND HIERARCHY INFO NODE 4
SECOND HIERARCHY INFO NODE 5
FIRST HIERARCHY INFO NODE 1
FIRST HIERARCHY INFO NODE 2

FIG. 4

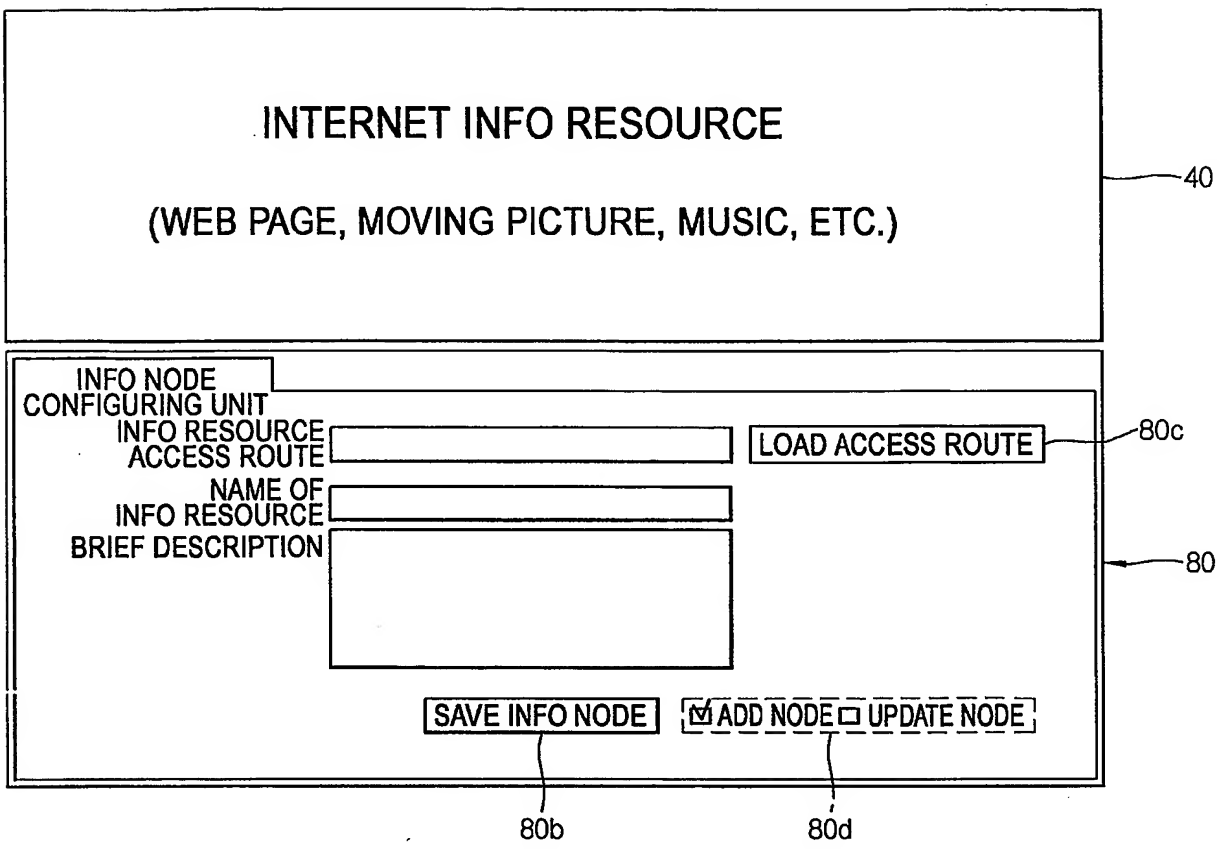

INTERNET INFO RESOURCE
(WEB PAGE, MOVING PICTURE, MUSIC, ETC.)
40
INFO NODE CONFIGURING UNIT
INFO RESOURCE ACCESS ROUTE
NAME OF INFO RESOURCE
BRIEF DESCRIPTION
LOAD ACCESS ROUTE
80c
80
SAVE INFO NODE
ADD NODE
UPDATE NODE
80b
80d

FIG. 5

RECORD IDENTIFICATION CODE	NODE NAME	NODE IDENTIFICATION CODE	PARENT NODE REFERENCE CODE	ACCESS ROUTE	BRIEF DESCRIPTION
1	JAVA	1	0	(null)	related to JAVA technique
2	JAVA SOURCE	1	1	(null)	sources available
3	JAVA LIBRARY	1	1	(null)	libraries available
4	JAVA WORLD	2	2	URL 1	beginner source
5	JAVA LAND	2	2	URL 2	beginner source
6	JAVA FORUM	2	3	URL 3	regulated library source
7	JAVA CLUB	2	3	URL 4	JAVA developer library
(SERIAL NUMBER)					

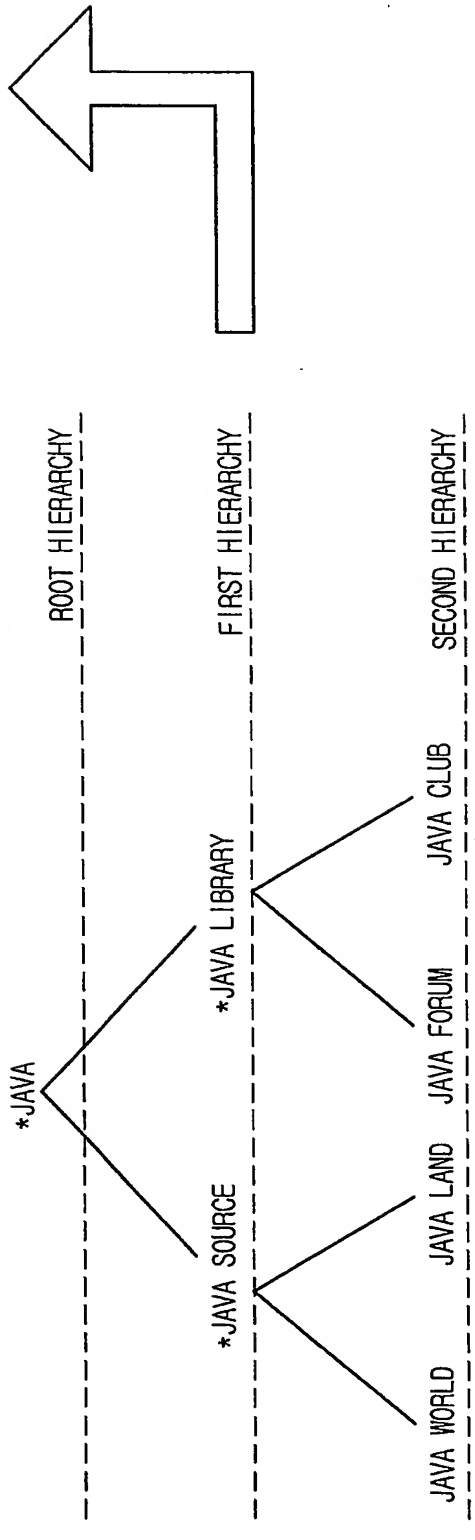
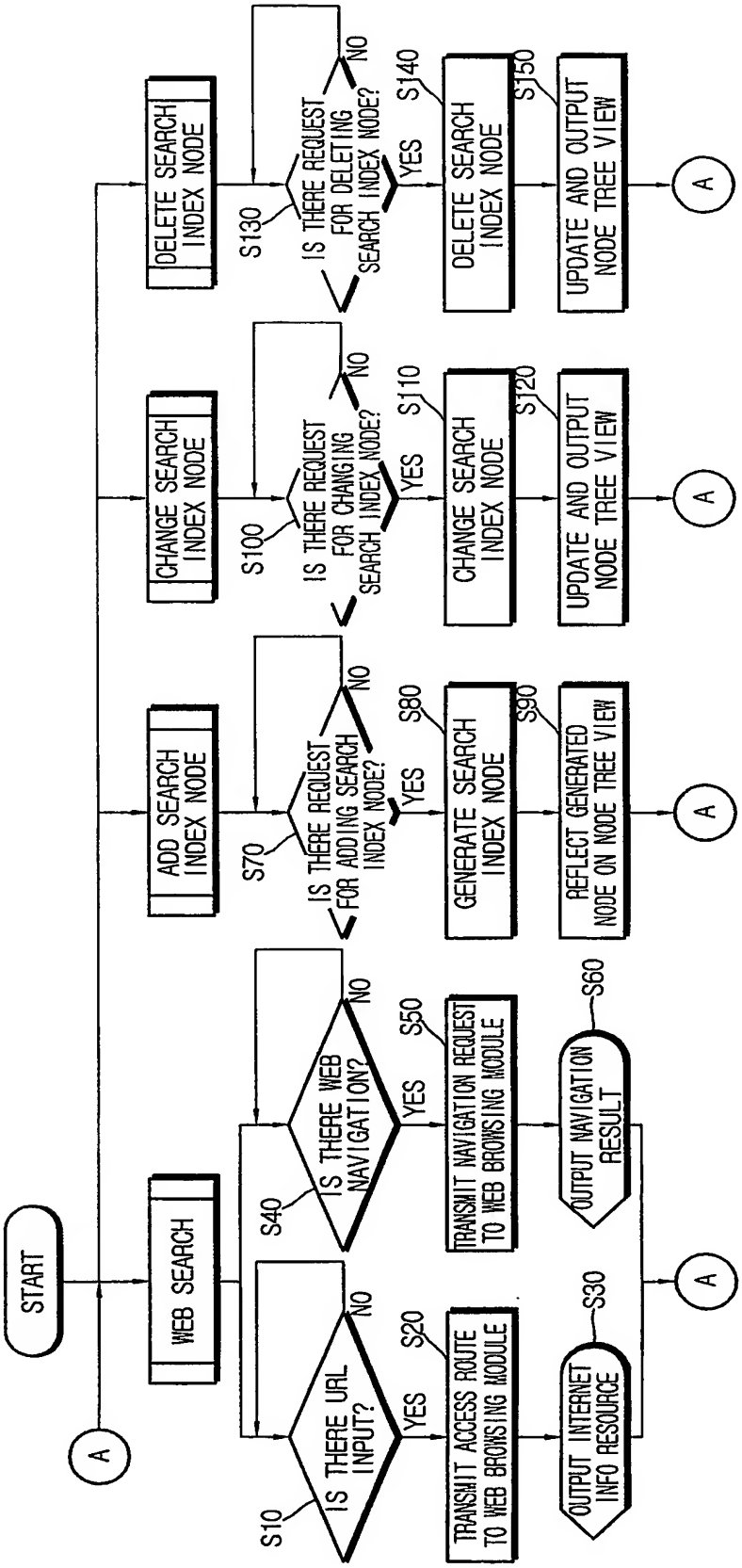


FIG. 6


START
WEB SEARCH
S10
IS THERE URL INPUT?
YES
S20
TRANSMIT ACCESS ROUTE TO WEB BROWSING MODULE
S30
OUTPUT INTERNET INFO RESOURCE
NO
S40
IS THERE WEB NAVIGATION?
YES
S50
TRANSMIT NAVIGATION REQUEST TO WEB BROWSING MODULE
S60
OUTPUT NAVIGATION RESULT
NO
ADD SEARCH INDEX NODE
S70
IS THERE REQUEST FOR ADDING SEARCH INDEX NODE?
YES
S80
GENERATE SEARCH INDEX NODE
S90
REFLECT GENERATED NODE ON NODE TREE VIEW
NO
CHANGE SEARCH INDEX NODE
S100
IS THERE REQUEST FOR CHANGING SEARCH INDEX NODE?
YES
S110
CHANGE SEARCH INDEX NODE
S120
UPDATE AND OUTPUT NODE TREE VIEW
NO
DELETE SEARCH INDEX NODE
S130
IS THERE REQUEST FOR DELETING SEARCH INDEX NODE?
YES
S140
DELETE SEARCH INDEX NODE
S150
UPDATE AND OUTPUT NODE TREE VIEW
NO
A
A
A
A

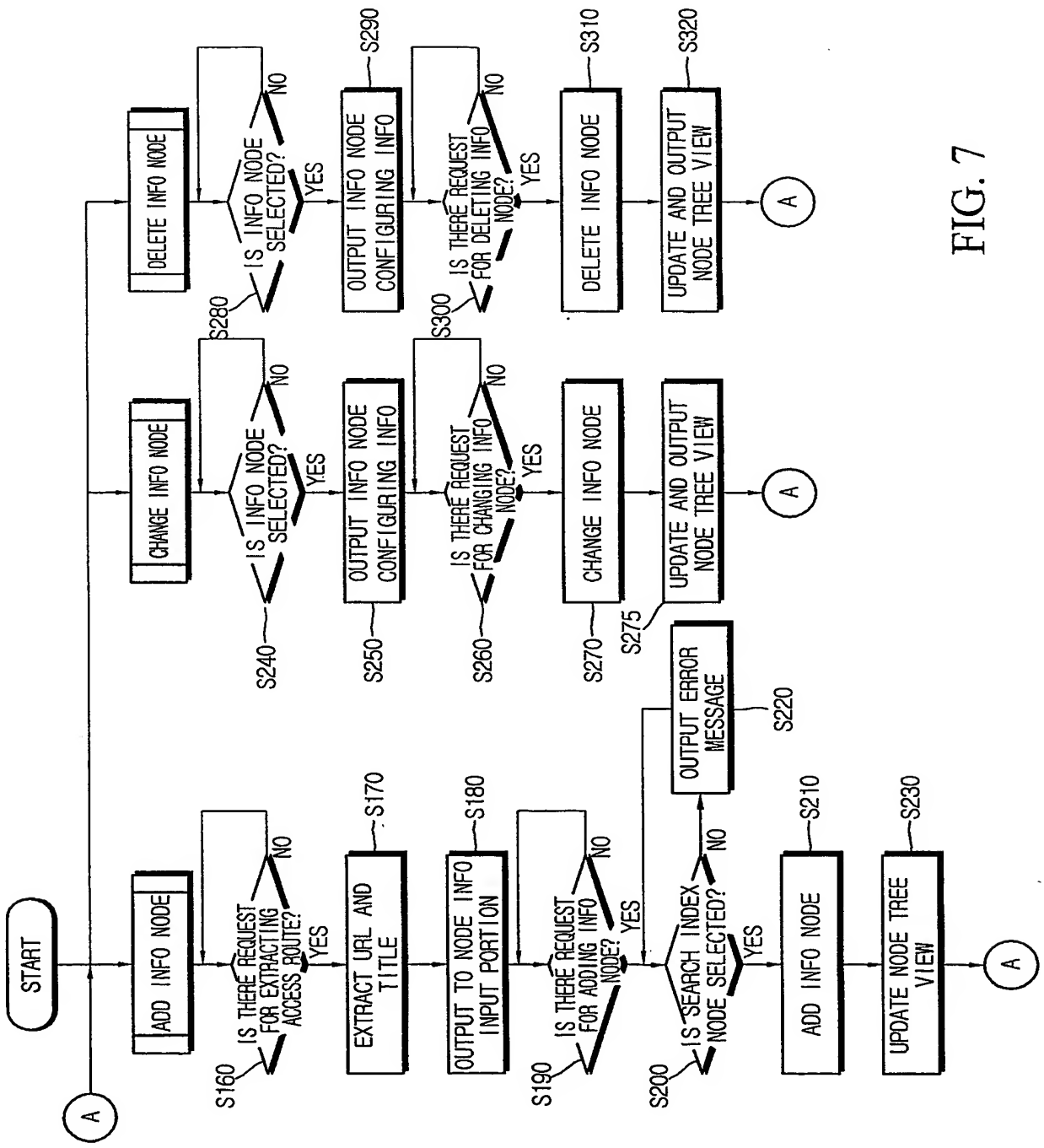

START
A
ADD INFO NODE
S160
IS THERE REQUEST FOR EXTRACTING ACCESS ROUTE?
NO
YES
S170
EXTRACT URL AND TITLE
S180
OUTPUT TO NODE INFO INPUT PORTION
S190
IS THERE REQUEST FOR ADDING INFO NODE?
NO
YES
S200
IS SEARCH INDEX NODE SELECTED?
NO
YES
S210
ADD INFO NODE
S230
UPDATE NODE TREE VIEW
A
S220
OUTPUT ERROR MESSAGE
CHANGE INFO NODE
S240
IS INFO NODE SELECTED?
NO
YES
S250
OUTPUT INFO NODE CONFIGURING INFO
S260
IS THERE REQUEST FOR CHANGING INFO NODE?
NO
YES
S270
CHANGE INFO NODE
S275
UPDATE AND OUTPUT NODE TREE VIEW
A
DELETE INFO NODE
S280
IS INFO NODE SELECTED?
NO
YES
S290
OUTPUT INFO NODE CONFIGURING INFO
S300
IS THERE REQUEST FOR DELETING INFO NODE?
NO
YES
S310
DELETE INFO NODE
S320
UPDATE AND OUTPUT NODE TREE VIEW
A

FIG. 7

FIG. 8

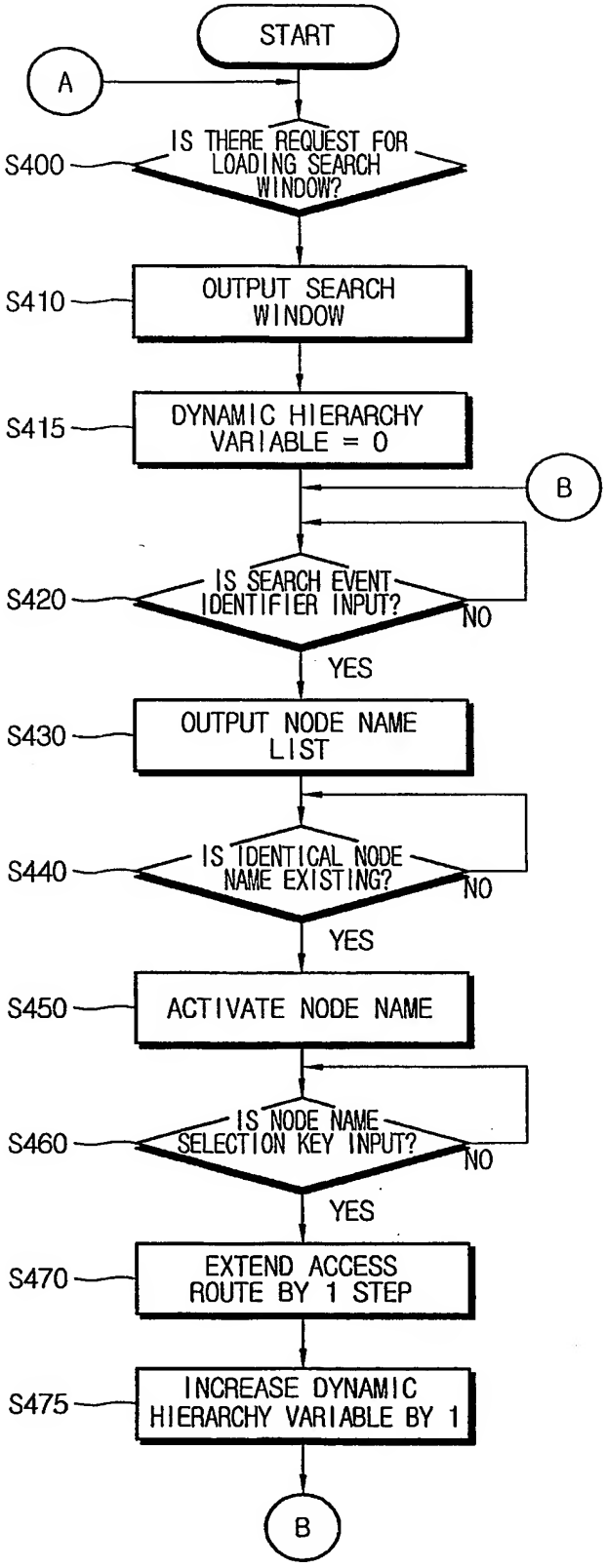

START
A
S400
IS THERE REQUEST FOR LOADING SEARCH WINDOW?
S410
OUTPUT SEARCH WINDOW
S415
DYNAMIC HIERARCHY VARIABLE = 0
B
S420
IS SEARCH EVENT IDENTIFIER INPUT?
NO
YES
S430
OUTPUT NODE NAME LIST
S440
IS IDENTICAL NODE NAME EXISTING?
NO
YES
S450
ACTIVATE NODE NAME
S460
IS NODE NAME SELECTION KEY INPUT?
NO
YES
S470
EXTEND ACCESS ROUTE BY 1 STEP
S475
INCREASE DYNAMIC HIERARCHY VARIABLE BY 1
B

FIG. 9a

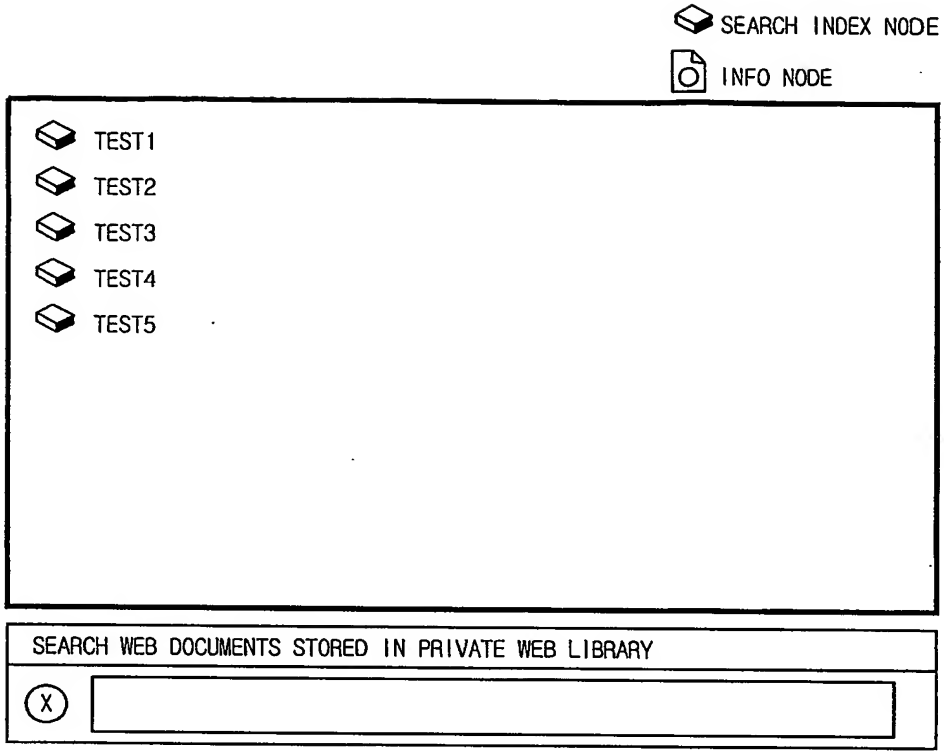

SEARCH INDEX NODE
INFO NODE
TEST1
TEST2
TEST3
TEST4
TEST5
SEARCH WEB DOCUMENTS STORED IN PRIVATE WEB LIBRARY
X

FIG. 9b

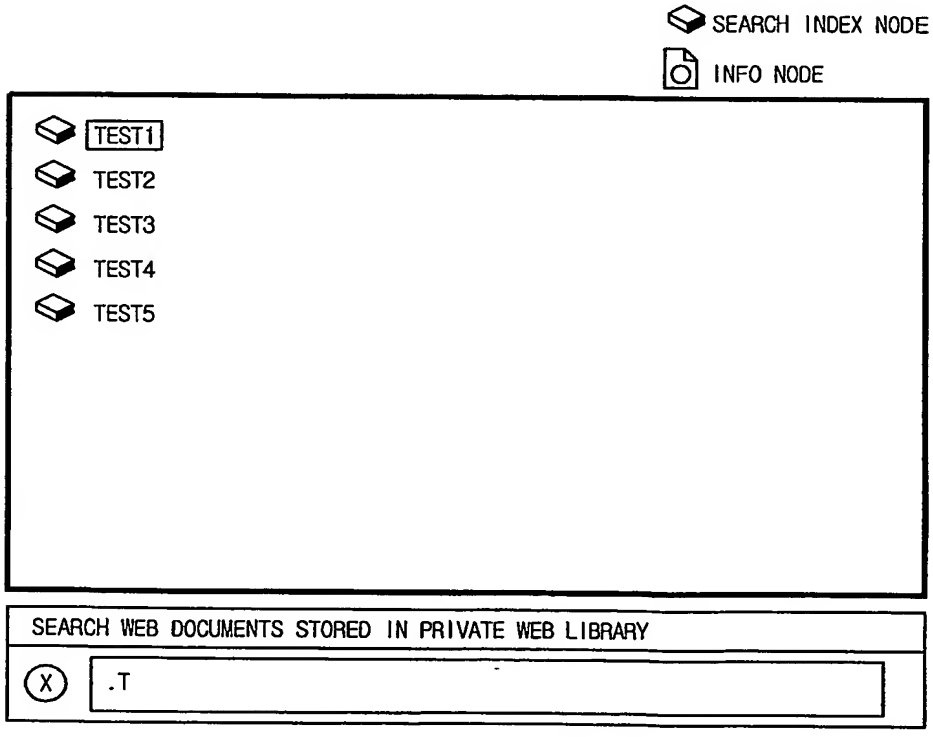

SEARCH INDEX NODE
INFO NODE
TEST1
TEST2
TEST3
TEST4
TEST5
SEARCH WEB DOCUMENTS STORED IN PRIVATE WEB LIBRARY
X
.T

FIG. 9c

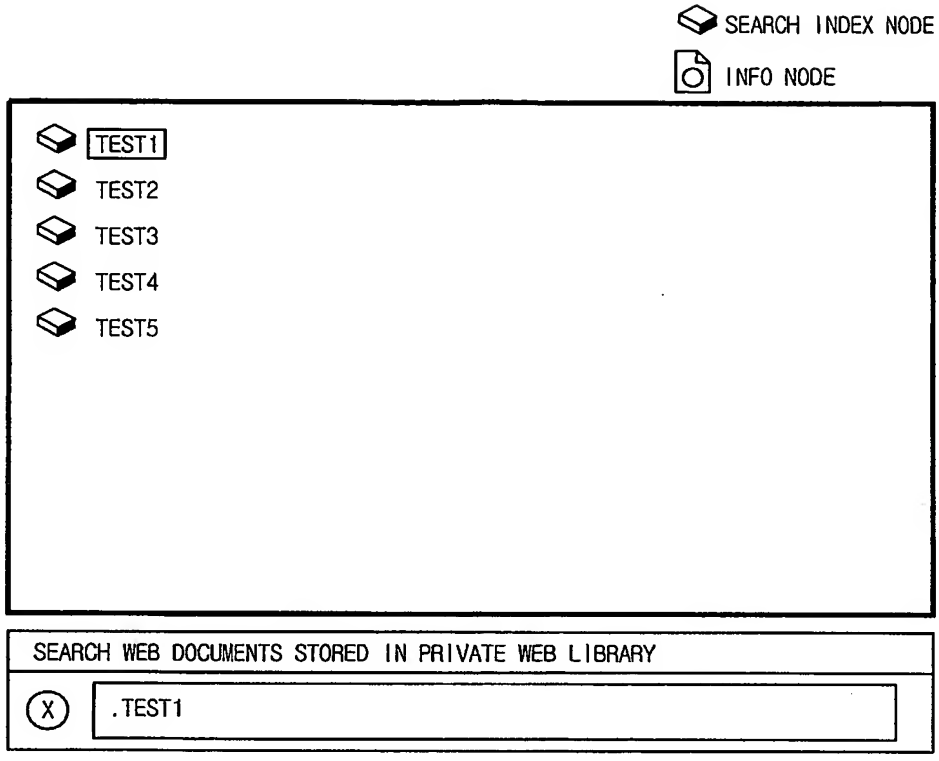

SEARCH INDEX NODE
INFO NODE
TEST1
TEST2
TEST3
TEST4
TEST5
SEARCH WEB DOCUMENTS STORED IN PRIVATE WEB LIBRARY
X
.TEST1

FIG. 9d

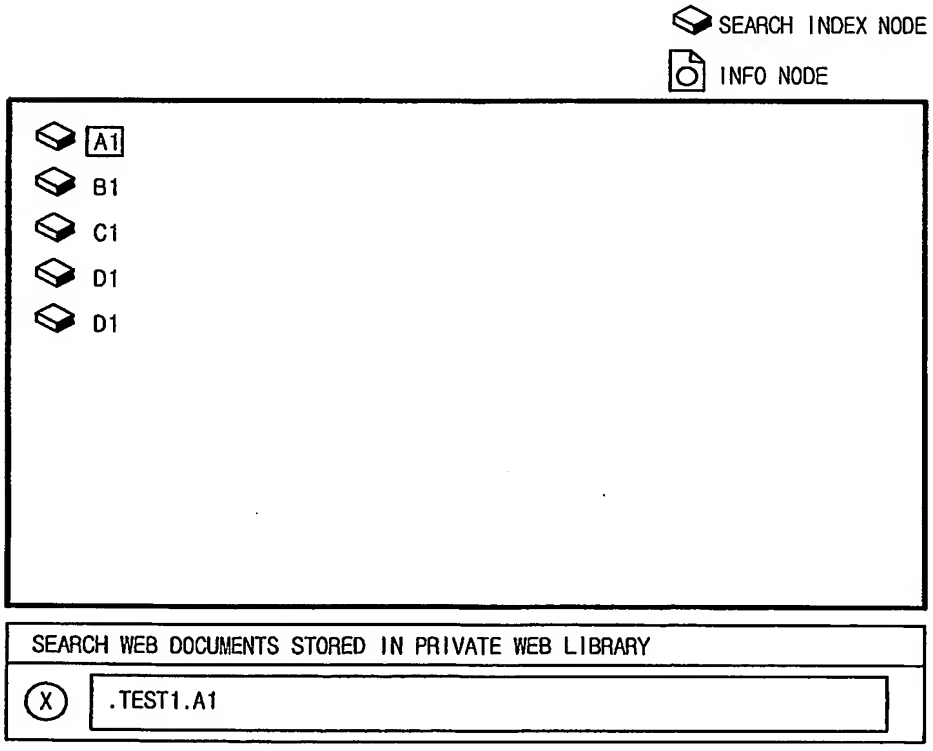

SEARCH INDEX NODE
INFO NODE
A1
B1
C1
D1
D1
SEARCH WEB DOCUMENTS STORED IN PRIVATE WEB LIBRARY
X
.TEST1.A1

FIG. 9e

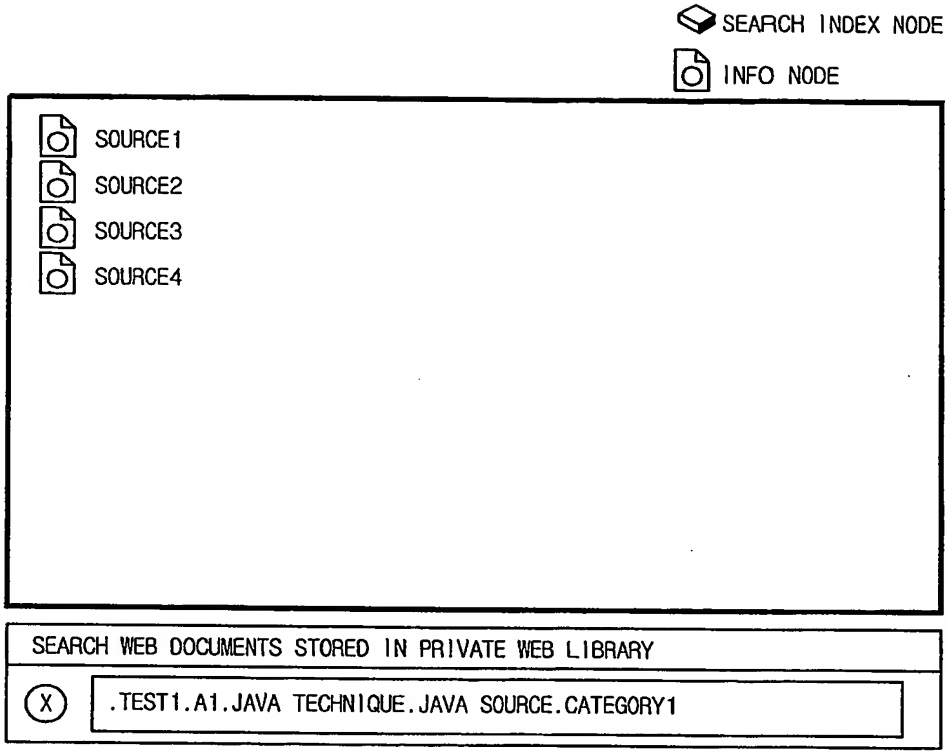

SEARCH INDEX NODE
INFO NODE
SOURCE1
SOURCE2
SOURCE3
SOURCE4
SEARCH WEB DOCUMENTS STORED IN PRIVATE WEB LIBRARY
X
.TEST1.A1.JAVA TECHNIQUE.JAVA SOURCE.CATEGORY1

FIG. 10

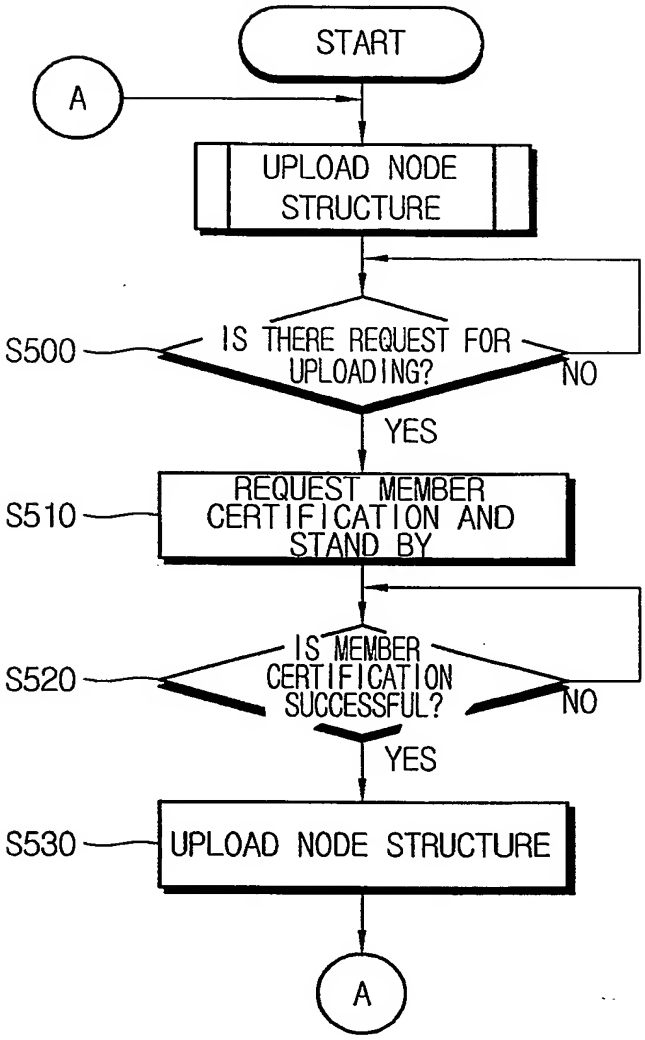

START
A
UPLOAD NODE STRUCTURE
S500
IS THERE REQUEST FOR UPLOADING?
NO
YES
S510
REQUEST MEMBER CERTIFICATION AND STAND BY
S520
IS MEMBER CERTIFICATION SUCCESSFUL?
NO
YES
S530
UPLOAD NODE STRUCTURE
A

FIG. 11

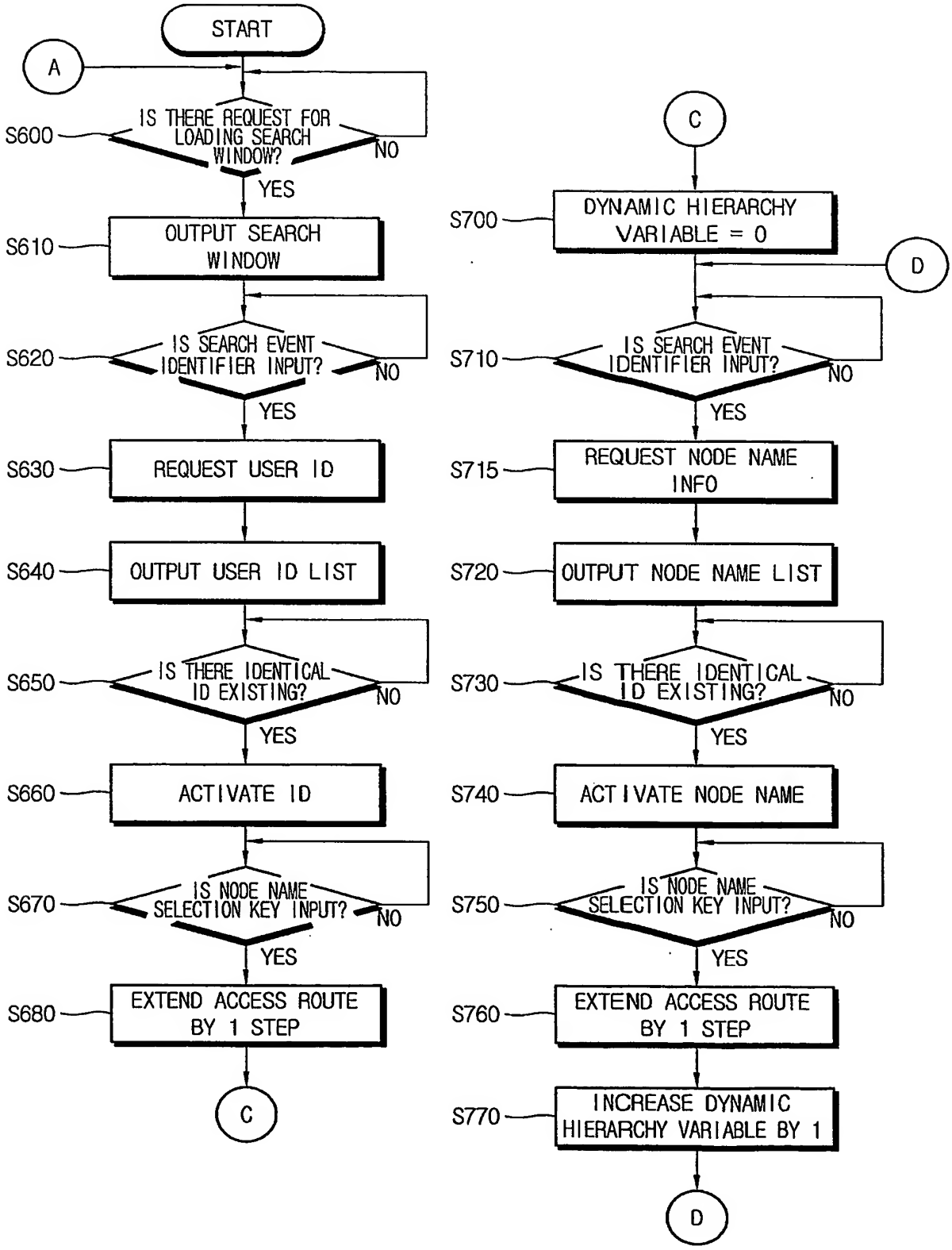

START
A
S600
IS THERE REQUEST FOR LOADING SEARCH WINDOW?
NO
YES
S610
OUTPUT SEARCH WINDOW
S620
IS SEARCH EVENT IDENTIFIER INPUT?
NO
YES
S630
REQUEST USER ID
S640
OUTPUT USER ID LIST
S650
IS THERE IDENTICAL ID EXISTING?
NO
YES
S660
ACTIVATE ID
S670
IS NODE NAME SELECTION KEY INPUT?
NO
YES
S680
EXTEND ACCESS ROUTE BY 1 STEP
C
C
S700
DYNAMIC HIERARCHY VARIABLE = 0
D
S710
IS SEARCH EVENT IDENTIFIER INPUT?
NO
YES
S715
REQUEST NODE NAME INFO
S720
OUTPUT NODE NAME LIST
S730
IS THERE IDENTICAL ID EXISTING?
NO
YES
S740
ACTIVATE NODE NAME
S750
IS NODE NAME SELECTION KEY INPUT?
NO
YES
S760
EXTEND ACCESS ROUTE BY 1 STEP
S770
INCREASE DYNAMIC HIERARCHY VARIABLE BY 1
D

FIG. 12a

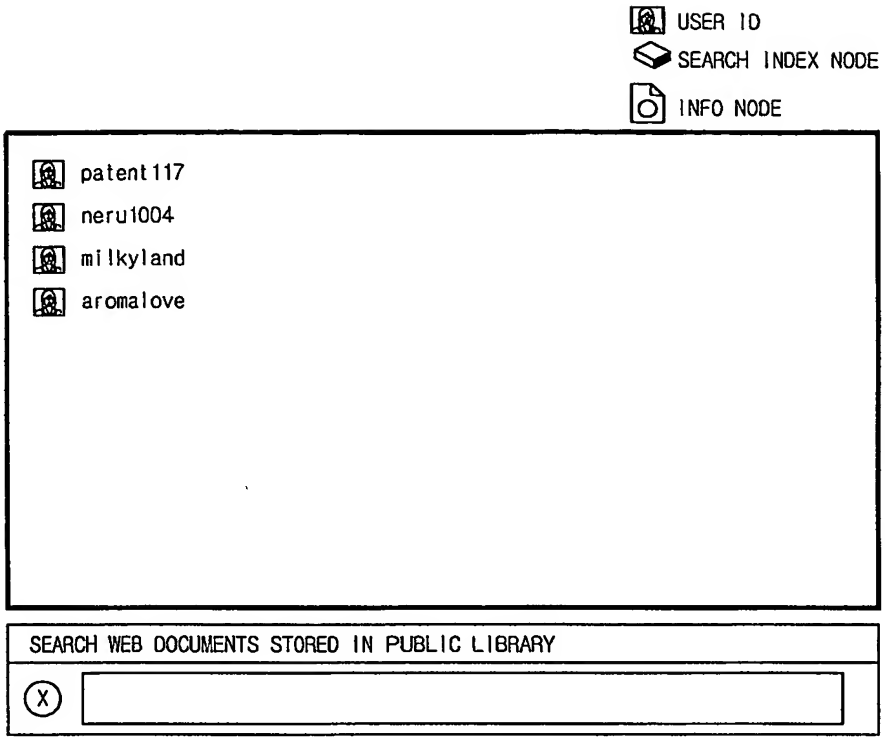


FIG. 12b

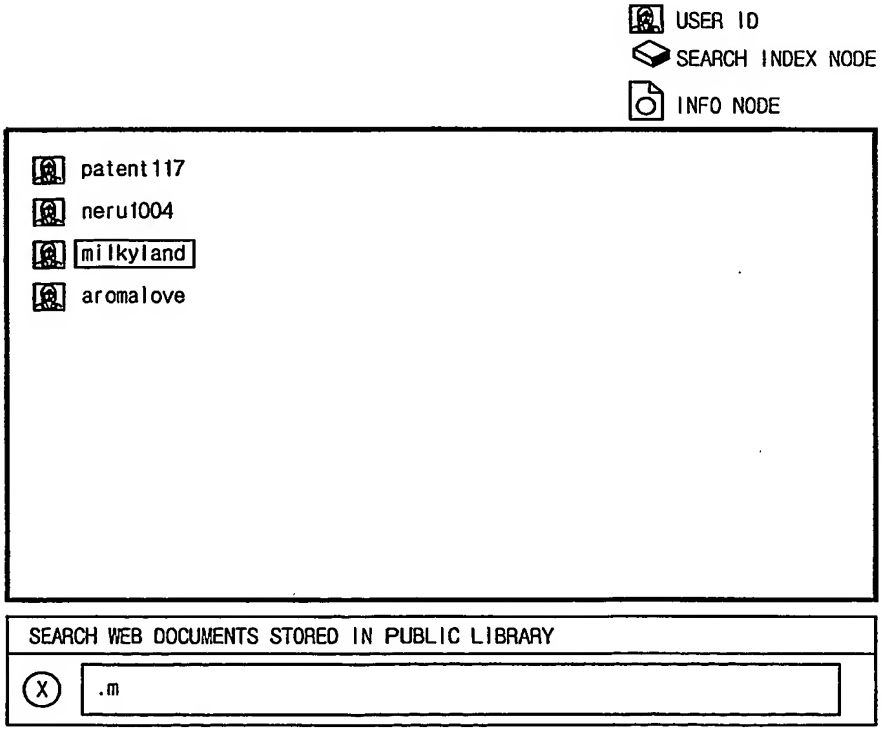


FIG. 12c

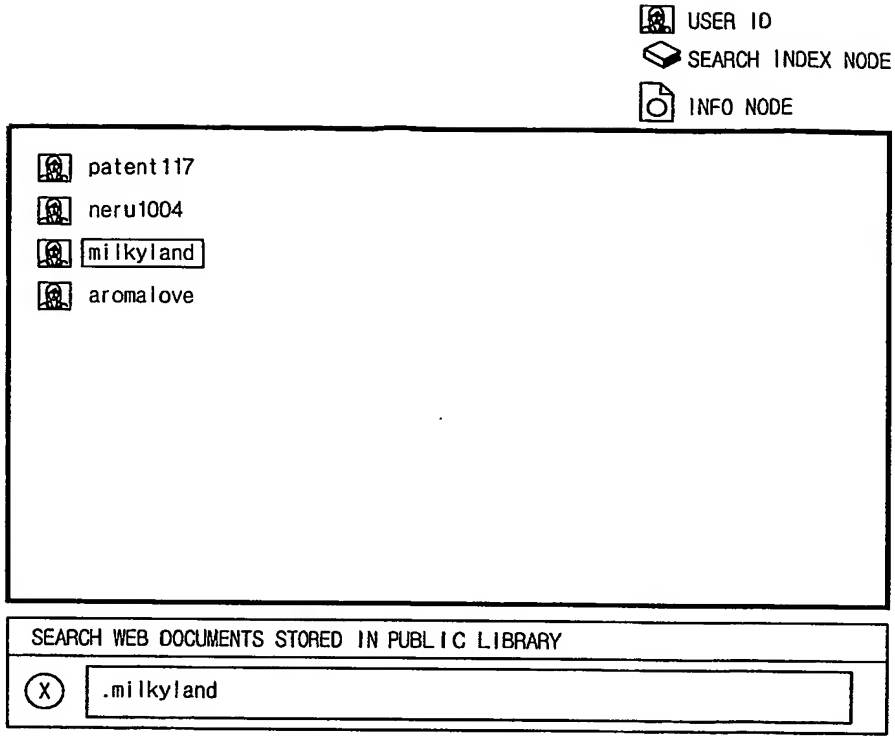


FIG. 12d

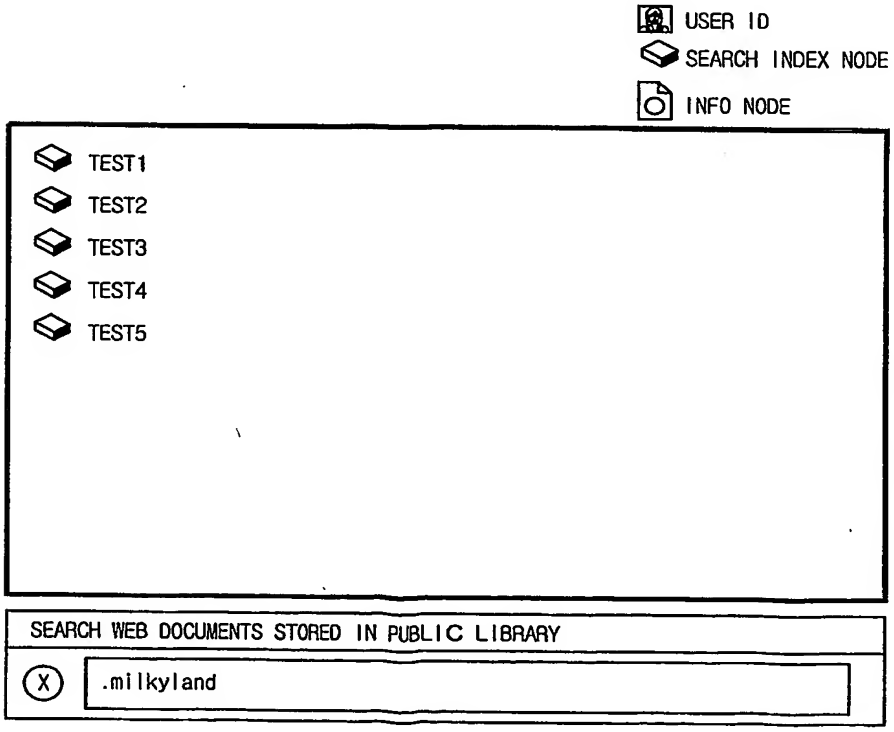


FIG. 12e

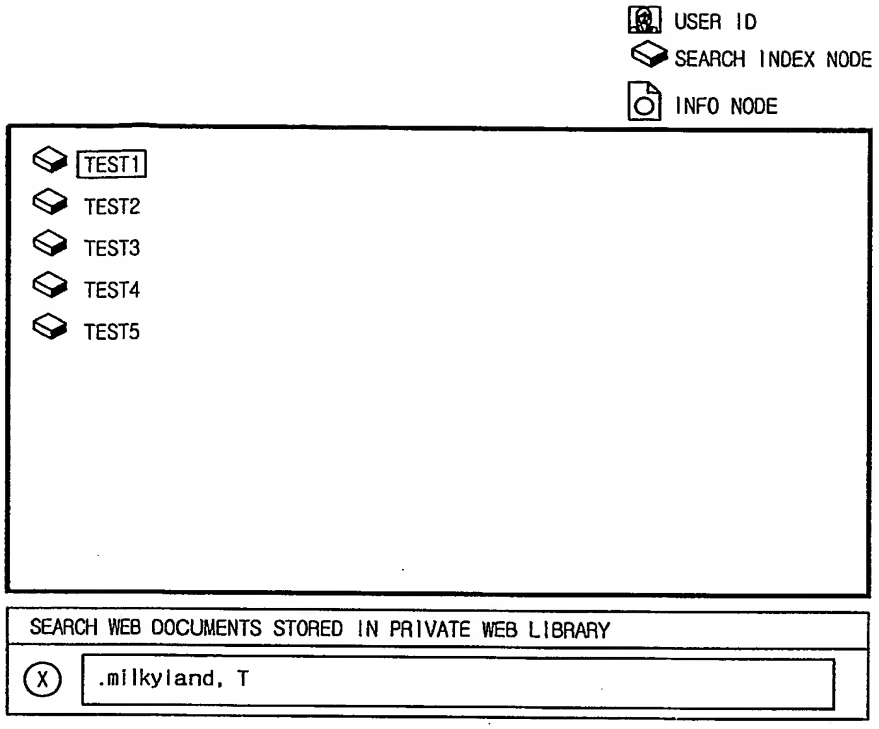


FIG. 12f

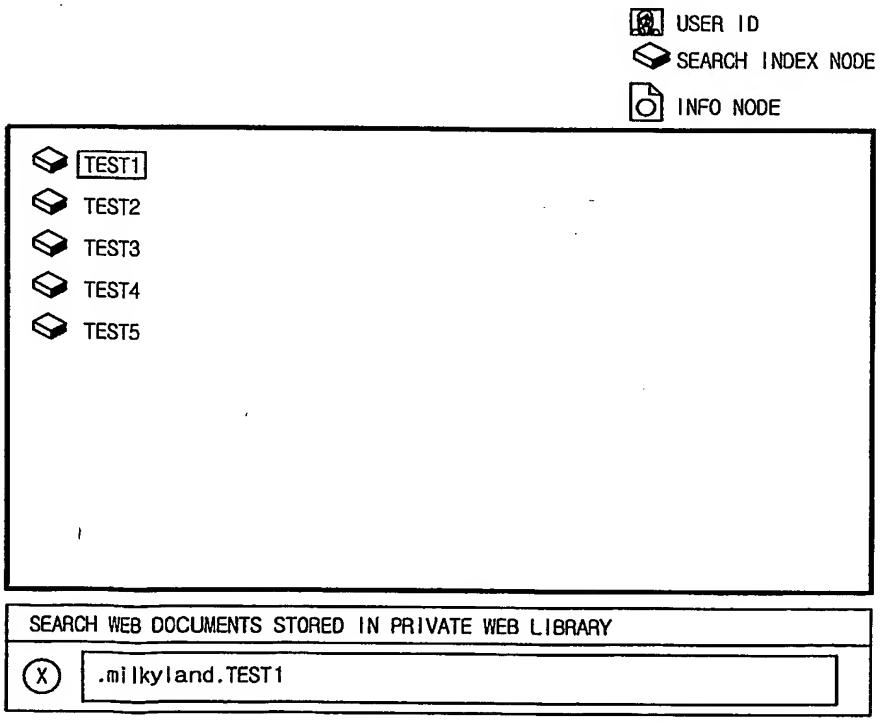


FIG. 12g

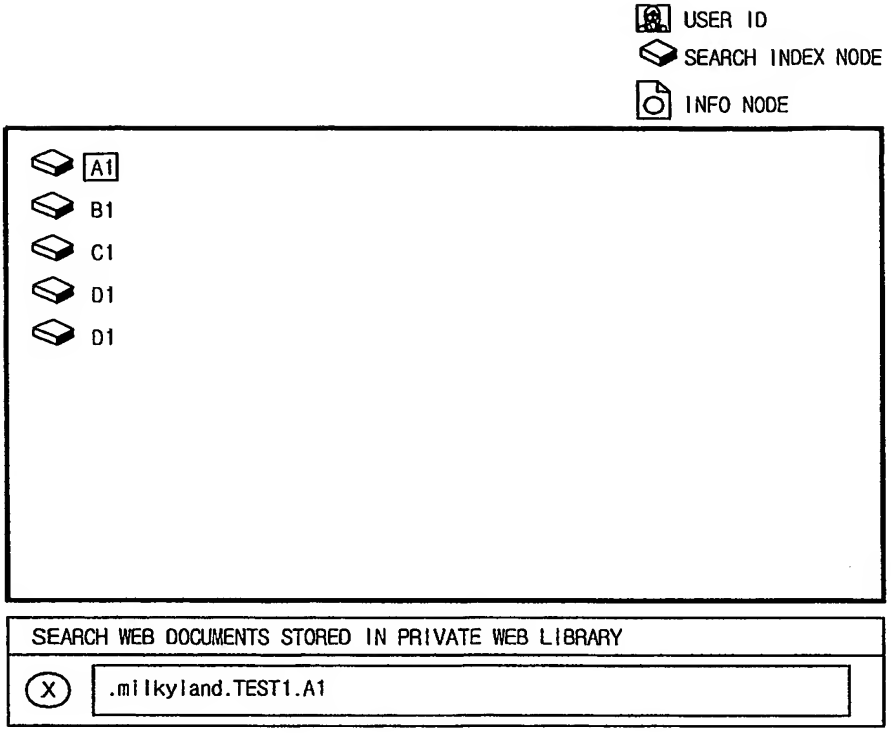
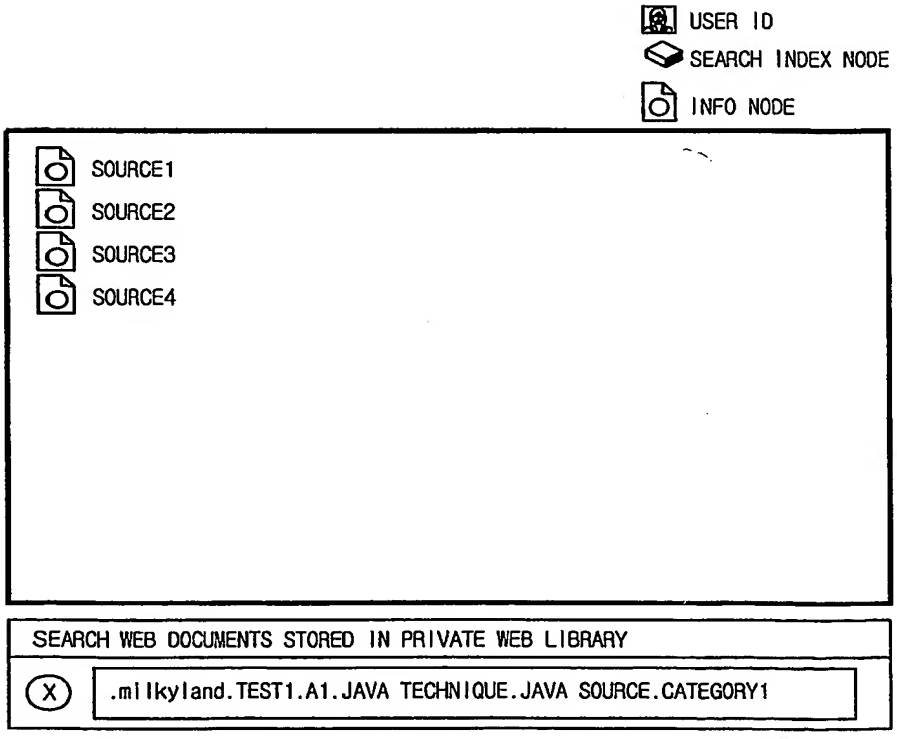



FIG. 12h